

Applicant Initiated Interview Request Form

Application No.: 10/552,200 First Named Applicant: Mark Alan Gibson
 Examiner: GORDON J STOCK JR Art Unit: 2877 Status of Application: Final Rejection

Tentative Participants:

(1) GORDON J STOCK JR (2) _____
 (3) Sudhir G Deshmukh (4) _____

Proposed Date of Interview: July 25, 2008 Proposed Time: 3:30PM AM/PM

Type of Interview Requested:

(1) ☒ Telephonic (2) ☐ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☒ NO

If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc.)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) <u>Rejections</u>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) <u>Objections</u>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Continuation Sheet Attached

Brief Description of Argument to be Presented:

Review the proposed amendment to overcome the 112 rejections and objections to the specification and claims

An interview was conducted on the above-identified application on 7/25/08.

NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

/Sudhir G Deshmukh/

Applicant/Applicant's Representative Signature

Sudhir G Deshmukh

Typed/Printed Name of Applicant or Representative

33,677

Registration Number, if applicable

/Gordon Stock Jr/

Examiner/SPE Signature

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to the (and by the USPTO) to (provide) to applicants. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1430, Alexandria, VA 22313-1430. DO NOT SEND FORM OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1430, Alexandria, VA 22313-1430. If you need assistance in completing this form, call 1-800-PTO-0198 and select option 7.

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(3) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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FA1159WOPCT

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF: CONFIRMATION NO. **8425**
Mark Alan Gibson, ET. AL. CASE NO.: **FA1159 USPCT**
SERIAL NO.: **10/552,200** GROUP ART UNIT: **2877**
FILED: **October 6, 2005** EXAMINER: **STOCK JR, GORDON J**
FOR: **Method of Producing Matched Coating Composition and Device Used Therefor**

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Mail Stop Amendment
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Alexandria, VA 22313-1450

Introductory Comments

The following response is being submitted in view of the Office Action mailed on May 28, 2008 in which claims 1 and 3 to 30 pending in the application were finally rejected.

Amendments to the specification begins on page 2 of this response.

Amendments to the Claims are reflected in the Listing of Claims which begins on page 3 of this response.

Remarks begin on page 11 of this response.

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Amendments to the Specification

Amend the paragraph on page 23, lines 12-18:

By way of example, if a target portion is red, the preliminary combination should not include green, since that combination would result in shading (adjusting) with two ~~complimentary~~ complementary colorants. However, red and green together can be used to desaturate and darken the color. The same result can be obtained by using black, which is generally a less expensive colorant. Hence, the normal practice is to avoid shading with ~~complimentary~~ complementary colorants.

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Listing of Claims

1. (currently amended) A method for producing a matched coating composition for a specified end-use, said method comprising:

(i) measuring reflectances of a target portion of a target coating at a set of preset wavelengths with a spectrophotometer of a coating characterizing device to plot a target spectral curve of said target portion, wherein said target coating is on an undamaged portion of an ~~autobody~~ auto body, plastic substrate, marine substrate, and aluminum substrate;

(ii) calculating target color (L,a,b or L,C,h) values of said target portion from said target spectral curve of said target portion;

(iii) selecting one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color values, wherein said stored list of known colorants comprises pigments, dispersions, tints, dyes, metallic flakes or a combination thereof, and wherein said combinatorial selection criteria comprise[s] avoiding shading with ~~complementary~~ complementary colorants and preferring ~~preliminary colorant combinations~~ with a fewer number of pigments than a greater number of pigments;

(iv) determining concentration of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria wherein said concentration of each said known colorant is optimized for optimal match of color values of each of said preliminary colorant combinations with said target color values;

(v) balancing said preliminary colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more viable combinations optimized in accordance with mixing and regulatory criteria developed for said specified end-use;

(vi) selecting an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein said known colorants and non-colorant components when mixed in accordance with

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said optimal viable combination produce said matched coating composition that when applied as a matched coating visually matches with the appearance of said target coating, wherein said acceptability equation is a summation of acceptability factors multiplied by a weight assigned to each said acceptability factor, wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability or cost; and

(vii) displaying on a screen of a monitor of said device said optimal viable combination.

2. (canceled).

3. (original) The method of claim 1 further comprising mixing said components of said optimal viable combination to produce said matched coating composition.

4. (original) The method of claim 1 further comprising applying said matched coating composition over a substrate to produce said coating that visually matches the appearance of said target coating.

5. (original) The method of claim 4 wherein said substrate is an automotive body.

6. (original) The method of claim 1 wherein said matched coating composition is an OEM automotive paint, refinish automotive paint, architectural paint, industrial coating composition, powder coating composition, printing ink, ink jet ink, nail polish, food colorant, eye shadow, or hair dye.

7. (currently amended) The method of claim 1 wherein each of said preliminary colorant combinations ~~comprising~~ comprises one to seven said known colorants.

8. (original) The method of claim 1 wherein said step (ii) comprises:

(a) directing a beam of light of a known intensity towards said target portion; and
(b) sequentially measuring at at least one aspecular angle said reflectances of said target portion at said set of preset wavelengths.

9. (original) The method of claim 1 wherein said step (ii) comprises:

(a) sequentially directing one or more beams of light of a known intensity at at least one incident angle towards said target portion; and

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(b) sequentially measuring at an aspecular angle said reflectances of said target portion at said set of preset wavelengths.

10. (original) A matched coating composition produced by the method of claim 1.

11. (currently amended) A color characterizing device for producing a matched coating composition for a specified end-use, said device comprising:

(i) a spectrophotometer of said device having a base for positioning said spectrophotometer over a target portion of a target coating, wherein said target coating is on an undamaged portion of an ~~autobody~~ auto body, plastic substrate, marine substrate, and aluminum substrate;

(ii) means for calculating target color (L,a,b or L,C,h) values of said target portion;

(iii) a computer usable storage medium located in a computer of said device having computer readable program code means residing therein, said computer readable program code means comprising:

(a) means for configuring computer readable program code devices to cause said computer to select one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color space values, wherein said stored list of known colorants comprises pigments, dispersions, tints, dyes, metallic flakes or a combination thereof, and wherein said combinatorial selection criteria comprise[[s]] avoiding shading with ~~complimentary~~ complementary colorants and preferring preliminary colorant combinations with a fewer number of pigments than a greater number of pigments;

(b) means for configuring computer readable program code devices to cause said computer to determine concentration of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria wherein said concentration of each said known colorant is optimized for optimal match of color values of each of said preliminary colorant combinations with said target color values;

(c) means for configuring computer readable program code devices to cause said computer to balance said preliminary colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more

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viable combinations optimized in accordance with mixing and regulatory criteria developed for said specified end-use; and

(d) means for configuring computer readable program code devices to cause said computer to select an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein said known colorants and non-colorant components when mixed in accordance with said optimal viable combination produce said matched coating composition that when applied as a matched coating visually matches with the appearance of said target coating, wherein said acceptability equation is a summation of acceptability factors multiplied by a weight assigned to each said acceptability factor, wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability or cost.

12. (original) The device of claim 11 further comprising means for configuring computer readable program code devices to cause said computer to display on a screen of a monitor of said device said optimal viable combination.

13. (original) The device of claim 11 further comprising:

(a) means for configuring computer readable program code devices to cause said computer to generate a signal in accordance with said optimal viable combination to dispense said components for making a desired amount of said matched coating composition;

(b) a dispenser for dispensing said components in a container, said dispenser being in communication with said computer;

(c) means for configuring computer readable program code devices to cause said computer to generate a signal upon completion of making said desired amount of said matched coating composition; and

(d) means for configuring computer readable program code devices to cause said computer to generate a signal to said dispenser to stop dispensing of said components.

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14. (original) The device of claim 13 further comprising a mixer for mixing said components dispensed in said container.

15. (original) The device of claim 11 wherein said device is a transportable device.

16. (canceled)

17. (canceled)

18. (original) The device of claim 11 wherein said spectrophotometer is a multi-angle spectrophotometer.

19. (original) The device of claim 11 wherein said spectrophotometer is a sphere geometry spectrophotometer.

20. (currently amended) A method for producing a matched resin for a specified end-use, said method comprising:

(i) measuring reflectances of a target portion of a target substrate at a set of preset wavelengths with a spectrophotometer of a coating characterizing device to plot a target spectral curve of said target portion, wherein said target portion is on an undamaged portion of said target substrate comprising an ~~autobody~~ auto body, plastic substrate, or a marine substrate;

(ii) calculating target color (L,a,b or L,C,h) values of said target portion from said target spectral curve of said target portion ;

(iii) selecting one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color values, wherein said stored list of known colorants comprises pigments, dispersions, tints, dyes, metallic flakes or a combination thereof, and wherein under said combinatorial selection criteria comprise[[s]] avoiding shading with ~~complimentary~~ complementary colorants and preferring ~~preliminary~~ colorant combinations with a fewer number of pigments than a greater number of pigments;

(iv) determining concentrations of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria to generate one or more intermediate colorant combinations of said known colorants wherein each

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of said intermediate colorant combinations is optimized for optimal color match with said target color values;

(v) balancing said intermediate colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more viable combinations of said known colorants, wherein each of said viable combinations is optimized in accordance with mixing and regulatory practices developed for said specified end-use;

(vi) selecting an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein components in said optimal viable combination when mixed produce said matched resin that when formed as a matched substrate visually matches the appearance of said target substrate, wherein said acceptability equation is a summation of acceptability factors multiplied by a weight assigned to each said acceptability factor, wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability or cost; and

(vii) displaying on a screen of a monitor of said device said optimal viable combination.

21. (original) The method of claim 20 further comprising:

(a) mixing said components in said optimal viable combination with a resin to produce said matched resin; and

(b) processing said matched resin into said matched substrate.

22. (original) The method of claim 21 wherein said processing step comprises injection molding, blow molding, rotational molding, thermoforming or extruding of said matched resin.

23. (original) A matched resin produced by the method of claim 20.

24. (original) The method of claim 20 wherein said matched substrate is a dashboard or interior door panels of an automobile and said target substrate is automobile upholstery.

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25. (currently amended) The method of claim 20 wherein said matched substrate is an automobile bumper guard and said target substrate is autobody auto body.

26. (previously presented) The device of claim 11 or 13 wherein said computer is in communication with a host computer.

27. (currently amended) A portable computer usable storage medium having computer readable program code means stored therein for producing a matched coating composition for a specified end-use, said computer readable program code means comprising:

(a) means for configuring computer readable program code devices to cause a computer to select one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color space values of a target portion on an undamaged portion of a target substrate comprising an auto body, plastic substrate, or a marine substrate, wherein said stored list of known colorants comprises pigments, dispersions, tints, dyes, metallic Rakes or a combination thereof, and wherein said combinatorial selection criteria comprise[[s]] avoiding shading with ~~complimentary~~ complementary colorants and preferring preliminary colorant combinations with a fewer number of pigments than a greater number of pigments;

(b) means for configuring computer readable program code devices to cause said computer to determine concentration of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria wherein said concentration of each said known colorant is optimized for optimal match of color values of each of said preliminary colorant combinations with said target color values;

(c) means for configuring computer readable program code devices to cause said computer to balance said preliminary colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more viable combinations optimized in accordance with mixing and regulatory criteria developed for said specified end-use; and

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(d) means for configuring computer readable program code devices to cause said computer to select an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein said known colorants and non-colorant components when mixed in accordance with said optimal viable combination produce said matched coating composition that when applied as a matched coating visually matches with the appearance of a target coating, wherein said acceptability equation is a summation of acceptability factors multiplied by a weight assigned to each said acceptability factor, wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability or cost.

28. (previously presented) The portable computer usable storage medium of claim 27 further comprising means for configuring computer readable program code devices to cause said computer to display on a screen of a monitor said optimal viable combination.

29. (previously presented) The portable computer usable storage medium of claim 27 further comprising:

(a) means for configuring computer readable program code devices to cause said computer to generate a signal in accordance with said optimal viable combination to dispense said known colorants and said non-colorant components for making a desired amount of said matched coating composition;

(b) a dispenser for dispensing said known colorants and said non-colorant components in a container, said dispenser being in communication with said computer;

(c) means for configuring computer readable program code devices to cause said computer to generate a signal upon completion of making said desired amount of said matched coating composition; and

(d) means for configuring computer readable program code devices to cause said computer to generate a signal to said dispenser to stop dispensing of said known colorants and said non-colorant components.

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30. (Previously presented) The portable computer usable storage medium of claim 27 wherein said medium is a CD-Rom.

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REMARKS

Each objection and rejection is addressed below under the original subject and numeric heading set forth in the Office Action.

Specification

The specification was objected to for a typographical error in a paragraph on page 23, which has been amended along the lines suggested in the Office Action.

Claim Objections

Claims 1, 7, 11, 16-17, 20, 25, 26 and 27 were objected to. The intervening dependent claims were also objected to, since they depend from the aforementioned objected to claims. In order to overcome the objections, said claims have been amended along the lines suggested in the Office Action, which are subject to the following additional comments:

1. The phrase combinatorial selection criteria "**comprises**" in the independent claims 1, 11, 20 and 27, was amended to recite combinatorial selection criteria "**comprise**", since the term "criteria" is plural.

2. The Office action on page 3, item 10 that in claim 26 "claim 11" should read as "claims 11". Since claim 26 is a multiple dependent claim that depends either from claim 11 or claim 13, it is not understood why claim 26 was objected to. Reconsideration of said objection is respectfully requested.

3. Means (a) in claim 27 was amended to provide further clarification by reciting "target color space values of a target portion on an undamaged portion of a target substrate comprising an auto body, plastic substrate, or a marine substrate." Support can be found in claim 1.

Claim Rejections – 35 USC §112, second paragraph

Claims 1, 2-30 were rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention since it was unclear the preliminary colorant combination is being compared with the use of the term "fewer". At outset, applicants assume that since claim 2 was canceled, claims 1, and 3-30 had been rejected. To overcome the rejection, the independent claims 1, 11, 20 and 27 were amended to recite "preferring preliminary colorant combinations with a

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fewer number of pigments than a greater number of pigments". Support can be found on page 23, lines 21-25 of the specification.

Conclusion

The Office Action noted that claims 1, 2-15, 18-30 would be allowable if rewritten or amended to overcome the objections and rejection set forth in the final Office Action. Applicants take this opportunity to sincerely thank Examiner Stock for the allowability of the pending claims and for pointing out the typographical error and other very helpful corrections to the pending claims. Applicants have canceled claims 16 and 17 and respectfully submit that the claim amendments and the distinguishing observations have overcome the rejections maintained in the final Office Action and places the claims, as amended, in a condition for allowance.

In view of the foregoing, allowance of the pending claims is respectfully requested.

Respectfully submitted,

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Dated: June 27, 2008